

plurality of scanning lines, a pixel having a switching device connected to each of said scanning lines and each of said data lines, and a pixel electrode connected to said switching device, and the first substrate including:

- 1) a lens array substrate provided with a plurality of convex microlenses with one microlens formed corresponding to each of said pixel,
- 2) a step portion being substantially equal height to said microlenses throughout a region completely overlapping said sealing material, the width of the step portion being wider than the entire width of the sealing material, and
- 3) a transparent cover adhered to the lens array substrate with an adhesive that covers said microlenses and said step portion.

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REMARKS

Claims 1-5, 7, 8 and 10-11 are pending. By this amendment, claims 12-26 are canceled and claims 1, 4, 7 and 10 are amended. Support for the amended claims can be found, for example on page 15, lines 19-27 in the present disclosure. No new matter is added.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. §1.121(c)(1)(ii)).

Entry of this amendment is proper under 37 CFR §1.116 because the amendments: a) place the application in condition for allowance for all the reasons discussed herein; b) do not raise any new issues requiring further search or consideration; c) place the application in better condition for appeal, if necessary; and d) do not present any additional claims without canceling a corresponding number of finally rejected claims. Thus entry of the Amendment is respectfully requested.

I. The Claims Define Patentable Subject Matter

Claims 1-5, 7, 8 and 10-26 are rejected under 35 U.S.C. §103(a) over "Applicants admitted prior art" (herein after "APA") shown in Fig. 11 of the present application in view of Ray et al., U.S. Patent No. 5,701,008 (hereinafter "Ray").

The rejection of claims 12-26 have been rendered moot due to the cancellation of these claims. However, Applicant respectfully traverses the rejections of claims 1-5, 7, 9 and 10-11.

In particular, APA and Ray, individually or in combination, fail to disclose or suggest a pair of substrates including a first substrate and a second substrate adhered together with a sealing material of photo curing resin (emphasis added), as recited in claims 1, 4, 7 and 10.

In fact, APA and Ray fail to disclose or even mention the specific material of the sealing material, whereas the claimed invention specifies that the sealing material is made from photo curing resin. Hence, if a photo curing resin is used as the sealing material and the sealing material is cured by the light emitted from the side of the opposite substrate, as disclosed in Applicant's invention, the emitted light will reach the sealing material without refraction so that the entire sealing material can be photo-cured uniformly (page 15, lines 19-27).

Accordingly, APA and Ray, individually or in combination, fail to disclose or suggest a pair of substrates including a first substrate and a second substrate adhered together with a sealing material of photo curing resin, as recited in claims 1, 4, 7 and 10.

For at least these reasons, Applicant respectfully submits that APA and Ray fail to disclose or render obvious the features in independent claims 1, 4, 7 and 10. Claims 2-3, 5, 8 and 11, which depend from independent claims are likewise distinguished over the applied art for at least the reasons discussed as well as for the additional features they recite.

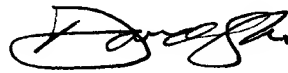
Reconsideration and withdrawal of the rejection under 35 U.S.C. §103 are respectfully requested.

II. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact applicants undersigned representative at the telephone number listed below.

Respectfully submitted,



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Attachment:
Appendix

Date: April 28, 2003

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<p>DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461</p>
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APPENDIX

Claims 12-26 are canceled.

The following is a marked-up version of the amended claims:

1. (Three Times Amended) An electro-optical device comprising:

 a pair of substrates including a first substrate and a second substrate adhered together with a sealing material of photo curing resin;

 an electro-optical material enclosed between said pair of substrates; and

 a plurality of pixels formed in a matrix disposed within said pair of substrates, said first substrate including:
 - 1) a lens array substrate provided with a plurality of convex microlenses with one microlens corresponding to each of said plurality of pixels,
 - 2) a step portion being substantially equal in height to said microlenses throughout a region completely overlapping said sealing material, the width of the step portion being wider than the entire width of the sealing material, and
 - 3) a transparent cover adhered to the lens array substrate with an adhesive that covers said microlens and said step portion.
4. (Three Times Amended) A method for fabricating an electro-optical device which comprises a pair of substrates including a first substrate and a second substrate, a liquid crystal enclosed between the pair of substrates, and a plurality of pixels formed in a matrix disposed within said pair of substrates, said first substrate including a lens array substrate, said method comprising:

 forming a plurality of convex microlenses with one microlens corresponding to each of said plurality of pixels on said lens array substrate;

 forming a step portion substantially equal in height to said microlenses throughout a periphery of said first substrates;

adhering a transparent cover to said lens array substrate with an adhesive to cover said microlenses and said step portion;

forming a sealing material of photo curing resin, the width of the step portion being wider than the entire width of the sealing material;

superposing the first substrate on the second substrate to face said step portion with the sealing material therebetween, the periphery of the first substrate completely overlapping the sealing material; and

curing said sealing material while pressing said first substrate on the second substrate, and emitting light to said sealing material through said step portion.

7. (Three Times Amended) A method for fabricating an electro-optical device which comprises a pair of substrates including a first substrate and a second substrate, an electro-optical material enclosed between the pair of substrates, and a plurality of pixels formed in a matrix disposed within said pair of substrates, said first substrate including a lens array substrate, said method comprising:

forming a plurality of convex microlenses with one microlens corresponding to each of said plurality of pixels on said lens array substrate;

forming a step portion substantially equal in height to said microlenses throughout a periphery of said lens array substrate;

bonding a transparent cover to said lens array substrate with an adhesive so as to cover said microlenses and said step portion;

forming a sealing material of photo curing resin, the width of the step portion being wider than the entire width of the sealing material;

superposing the first substrate on the second substrate to face said step portion with said sealing material therebetween, the periphery of the first substrate completely overlapping the sealing material; and

curing said sealing material while applying pressure from an exterior of said pair of substrates, and emitting light to said sealing material through said step portion.

10. (Three Times Amended) An electro-optical device, comprising:

a pair of substrates including a first substrate and a second substrate adhered together with a sealing material of photo curing resin; and

an electro-optical material enclosed between said pair of substrates, said second substrate having a plurality of scanning lines, a plurality of data lines intersecting said plurality of scanning lines, a pixel having a switching device connected to each of said scanning lines and each of said data lines, and a pixel electrode connected to said switching device, and the first substrate including:

- 1) a lens array substrate provided with a plurality of convex microlenses with one microlens formed corresponding to each of said pixel,
- 2) a step portion being substantially equal height to said microlenses throughout a region completely overlapping said sealing material, the width of the step portion being wider than the entire width of the sealing material, and
- 3) a transparent cover adhered to the lens array substrate with an adhesive that covers said microlenses and said step portion.

pg 3, ln 14-15.